

VIBES



NISER Newsletter

Volume - 4, Issue - I

Jan-June 2022



www.niser.ac.in/vibes

NISER

VIBES

Jan - June, 2022 / Vol. 4, No. 1

MESSAGE FROM THE DIRECTOR

Dear Friends and Well-wishers of NISER,

I am happy to present the January-June 2022 Issue of the Institute newsletter to you.

This issue will give you glimpses of the achievements in the academic and research areas, initiatives, new services introduced at NISER.

Your comments and suggestions are welcome to make the next issue of the newsletter more interactive.

Warm regards,
Prof. Sudhakar Panda
Director, NISER

NEW ACADEMIC PROGRAMS INTRODUCED

1. Integrated MSc-PhD
2. Master's Program

Integrated MSc-PhD

Along with the Physical Sciences, NISER extended its Integrated MSc-PhD program to the Biological Sciences, Chemical Sciences and Mathematical Sciences. Online applications were invited from undergraduate students for admission to maiden batch of these programs for the upcoming academic session.

Master's Program

The newly set up Centre for Medical and Radiological Physics (CMRP) introduced its Master's Program (MSc) in Medical and Radiological Physics, a three-year program, that includes a two-year coursework and one-year internship in collaborating hospitals. Apart from being the first of its kind in the State of Odisha, it is also the first time that such a program is being conducted at the Master's level by an institute of the Department of Atomic Energy (DAE), Government of India.



Image by Divit Solanki

NEW FACILITIES, EQUIPMENTS & SERVICES

School of Biological Science

- ELISA Reader
- SYSTRONICS Double Beam UV - Visible Spectrophotometer
- Centrifuge 5424R (Refrigerated)
- FP20 Standard Kit pHmeter with LE438 sensor 3
- Motorized Epifluorescence Microscope with Photometric Prime BSI camera.
- Multimode-fluorescence plate reader for fluorescence intensity, polarization, FRET, TR-FL measurements
- BSL2 Animal Cell Culture facility
- Langmuir Blodgett/Brewster Angle Microscopy set-up

School of Physical Science

- Addition of a home-built vector network analyzer (VNA) based ferromagnetic resonance (FMR) set-up in which one can perform FMR measurements upto 26 GHz.
- Supercontinuum Laser and Optical Spectrum Analyzer
- Femtosecond amplified laser system and high-power laser lab
- Ultrafast terahertz spectroscopy
- Semiconductor Parameter Analysis System
- High frequency electrical characterization System
- Low temperature Photo conducting Cryostat based Probe Station
- Glove box with a Thermal Evaporator System
- Device Fabrication Lab
- Panchromatic Cathodoluminescence attachment in FESEM
- High temperature reactor for 2D materials growth

Installation of Lawn Tennis Court and Basketball Court

- For all the tennis enthusiasts of the Institute, this is the place to be. Flood lights are available to play after sun down. There are two hard courts that are available for use by the NISER faculty, staff and students.
- The newly built outdoor basketball court having backboard and outdoor lighting is located beside the lawn tennis court. The tennis and basketball courts were inaugurated by the Director on January 26, 2022.

NISER NewsCast Service

It is a fresh and unique service that has been introduced and extended to the whole campus of NISER by our Central library. As a result, we are now able to engage the NISER community with in-campus digital displays that inform, educate, and delight. It is hoped to foster a rich academic & research ecosystem on the campus.

Indian Research Information Network System (IRINS)

The IRINS is a web-based Research Information Management (RIM) service implemented at NISER. It is a tool that evaluates the research output of both the research scholar as well as the various schools of our Institute on multiple bibliometric parameters. It provides significant exposure to the research community and brings funding opportunities from various national and international agencies. It also helps the administrators to strategically analyze the progress of research for better decision making regarding the funding, faculty assessment and resource allocation.

Visit: <https://niser.irins.org/>




NISER's Presence on Social Media

It is a matter of pride and pleasure to inform that NISER is making its presence felt online as it is now officially on Twitter, Facebook, LinkedIn and YouTube. It promotes and represents the kind of culture our Institute aims to cultivate. Significant matters like recruitment, student as well as alumni relations, crisis communications and fundraising are put up for the whole community to view on social media.

 https://twitter.com/niser_official/

 <https://www.facebook.com/niser.official/>

 <https://in.linkedin.com/school/niser-official/>

 https://www.youtube.com/@niser_official

HEALTH CENTRE

Recently our Health Centre welcomed two new doctors, one medicine specialist and one general physician to its unit. At present, the Health Centre has provision for OPD treatment, Laboratory Investigation, Pharmacy, X-ray, Pulmonary Function Test, ECG, Obstetrics and Gynecological Ultrasound, minor surgical procedures along with facilities for dressing and Physiotherapy. During the COVID-19 pandemic, NISER Health Centre actively participated in managing COVID-19 positive cases with mild symptoms. It also coordinated the return of around 1200 students to the campus who were quarantined and tested by RT PCR for COVID-19 before they were allowed to go to their respective hostels. In February 2022, as part of the Pulse Polio Immunisation Programme, around 42 kids, below the age of five years, were vaccinated for Polio by the Oral Polio vaccine.

AWARD *The Academic Excellence Award for the year 2022 was awarded to the School of Physical Sciences, NISER by the CV Raman Foundation, Odisha. The Chairperson of SPS, NISER, Dr. A. V. Anil Kumar, received the award in the CV Raman Award Ceremony function.*



ACADEMIC EVENTS ORGANIZED

The **Indo-Japan Workshop on Interface Phenomena for Spintronics (IJW-IPS 2022)** was conducted between March 8-10, 2022. It was jointly organized by the School of Physical Sciences, NISER and Tohoku University, Japan, that resulted in a turnout of close to two hundred participants. The objective of the conference was to provide a virtual platform for interaction among the scientists, experts and technologists on the fundamental understanding of magnetism at a fine scale and R&D on futuristic materials for next generation spintronic applications.

17th Discussion Meeting in Harmonic Analysis (DMHA17) was conducted by the School of Mathematical Sciences, NISER from 5th to 8th January 2022 and attended by 117 participants. The core of a DMHA is a series of lectures that focuses on a particular theme by an expert in one of the promising fields. The DMHAs are intended to be accessible to mathematicians at the beginning of their careers. Apart from regular research talks, there were also two series of thematic lectures.

Indian Physics Association (IPA) Young Physicists Meet (YPM) 2022 - East Zone

was hosted by NISER on January 31, 2022. There were thirty participating institutes spanning eleven states from the eastern and northeastern regions of India. The goal was to establish a direct line of contact with young physicists, who are senior Ph.D. research scholars, postdocs, or young faculties in India, and gather feedback on how IPA can help them to advance in their careers. The first YPM was organized by Prof. Bedangadas Mohanty.

DAE C. V. Raman Lecture of the Indian Physics Association (IPA) was jointly organized by IPA in collaboration with NISER on March 4, 2022. The speaker, Prof. Goutam Bhattacharyya, Director of Saha Institute of Nuclear Physics, Kolkata, delivered a lecture on "A brief history of the Higgs boson". Since 2009, the DAE-CV Raman lectures have been extended to all parts of the country and are delivered by distinguished scientists having the motive of exciting young minds. IPA executive member Prof. Bedangadas Mohanty was the coordinator of the event.

Talks & Special Lectures

The Nobel Prizes-2021: An Exposition: On February 18, 2022, the faculties of NISER organized an engaging online session highlighting the various works and contributions of the Nobel laureates of 2021.



Prof. CHANDAN GOSWAMI

School of Biological Sciences, NISER Bhubaneswar

PHYSIOLOGY OR MEDICINE

David Julius and Ardem Patapoutian - Discoveries of receptors for temperature and touch.



Zoom Link



Prof. S PERUNCHERALATHAN

School of Chemical Sciences, NISER Bhubaneswar

CHEMISTRY

Benjamin List and David WC MacMillan - Development of asymmetric organocatalysis.



Prof. SUMEDHA

School of Physical Sciences, NISER Bhubaneswar

PHYSICS - I

Giorgio Parisi - The interplay of disorder and fluctuations in physical systems from atomic to planetary scales.



Prof. JAYA KHANNA

School of Earth & Planetary Sciences, NISER Bhubaneswar

PHYSICS - II

Syukuro Manabe, Klaus Hasselmann - Physical modelling of Earth's climate, quantifying variability and reliably predicting global warming.



Prof. AMARJEET NAYAK

School of Humanities & Social Sciences, NISER Bhubaneswar

LITERATURE

Abdulrazak Gurnah - Uncompromising and compassionate penetration of the effects of colonialism and the fate of the refugee in the gulf between cultures and continents.



Prof. PRANAY SWAIN

School of Humanities & Social Sciences, NISER Bhubaneswar

PEACE

Maria Ressa and Dmitry Andreyevich - Safeguarding freedom of expression: a precondition for democracy and lasting peace.



Prof. AMARENDRA DAS

School of Humanities and Social Sciences, NISER Bhubaneswar

ECONOMICS

David Card, Joshua D Angrist, Guido W. Imbens - Empirical contributions to labour economics, and methodological contributions to the analysis of causal relationships.

D.A.E. – C.V. RAMAN LECTURE

04 MAR 2022
16:30 Hrs

Pathani Samanta Auditorium



Prof. GAUTAM BHATTACHARYYA

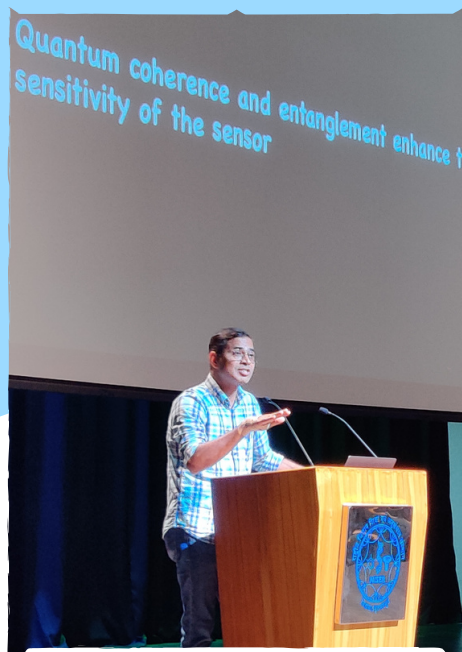
DIRECTOR
SAHA INSTITUTE OF NUCLEAR PHYSICS
KOLKATA

A BRIEF HISTORY OF THE HIGGS BOSON

NISER Outreach Talk Series: The NISER outreach cell collaborated with the Science Activities Club to conduct various informative talk series such as:

- Mr. Aditya Kulkarni, ESSEC Business School, France, "What after MS? - Deep Dive in Management" on January 16, 2022
- Dr. Chitrabhanu Chaudhury, NISER, "Platonic Solids" on January 21, 2022

- Dr. Ramkumar Sambasivan, IISER, Tirupati, **“Developmental Biology - An Ever-Developing Field”** on January 26, 2022
- Dr. Chandan Goswami, NISER, **“Ion channels in health and disease: Nobel prize 2021 and future research”** on February 18, 2022
- Dr. Upakarasamy Lourderaj, NISER, **“Culinary Reactions”** on April 1, 2022.
- Dr. Ashok Mohapatra, NISER, **“Quantum Sensors”** on April 29, 2022



Brain Matters Talks:

- The NISER Brain Matters Club conducted a series of talks of which the first was by Prof. Upinder S. Bhalla from the National Center for Biological Sciences, TIFR, Bangalore on **“Fantastic memories and where to find them”** on January 14, 2022. He spoke about the attributes of memory and reflected on the similarities and differences between the way we recall, and how today's gigantic AI systems achieve their remarkable capabilities.
- The second talk was by Dr. Aurnab Ghose on February 19, 2022. He spoke at length on **“Circuit architecture and activity modulation in regulating behaviour”**. He used laboratory examples to explain how neural circuit outputs are constrained by their physical architecture and how they may be modified by neuromodulators to generate a diversity of outcomes.

Student Counselling Cell Talks:

The Student Counselling Cell also organized its first webinar focusing primarily on Managing Stress and Anxiety. Dr. Narendra Nath Samantaray, Assistant Prof. from the Dept. of Clinical Psychology, Mizoram University delivered a talk on **“Positive Life Skills for Stress Management and Happiness”** on April 8, 2022.

Prof. Sunil Mukhi from IISER Pune gave an edifying talk on **“Fundamentals and Finality: The life and work of Steven Weinberg”** on February 25, 2022.

Seminar on National Education Policy of India was jointly organised by the CV Raman Foundation, Odisha and NISER at the Pathani Samanta Auditorium, NISER on June 10, 2022.

Oorna: Nature Club! invited Dr. Vivek Cyriac, Postdoctoral research scholar, Centre for Ecological Sciences, IISc to deliver a talk on **“Evolution of animal coloration”** on February 12, 2022. He spoke about the evolution of conspicuous coloration in Shieldtail snakes (family Uropeltidae).

AWARDS & HONORS



Prof. Bedangadas Mohanty
Featured in the document "75 under 50 scientists shaping today's India" by the Department of Science and Technology, Government of India, March 2022.

He was elected as the Spokesperson of India-ALICE-STAR Collaboration for the period 2021 and 2022. Member Drafting Group, Mega Science Vision in Nuclear Physics 2035, by Office of Principal Scientific Advisor to the Government of India



Dr. C. Gunanathan
Received the CRSI (Chemical Research Society of India) Bronze Medal.



Dr. Chandan Goswami
Serving as the 'DAAD Research Ambassador for 2018-2022'



Dr. Debasmita Pankaj Alone
Appointed as Co-opted Member of the expert committee in Life Sciences on SRG, NPDP & ECRA schemes in SERB (2021-2024).



Dr. Himansu Sekhar Biswal,
has been inducted as the Affiliate member of the Royal Society of Chemistry, UK



Dr. Jogendra Nath Behera
Served as the reviewer of innovative ideas received under the INSPIRE Awards-MANAK for the year 2021-22



Dr. Mohammad Saleem
Received DBT/Wellcome Trust Intermediate Fellowship Award Activated (01/10/2021 – 21/09/2026)



Dr. Pranay Kumar Swain
Elected the Co-convenor of Research Committee # 28: Sociology of Everyday Life of the Indian Sociological Society, 2022-23



Dr. S. P. Senanayak
Received the Royal Society Newton Alumni Award
Chosen as the Associate of Indian Academy of Sciences
Felicited with SERB Early Career Award



Dr. Shovon Pal
Received IOP trusted reviewer status, designed to recognise the very best peer reviewers in the physical sciences



Dr. Subhankar Mishra,
Received Fulbright-Nehru Academic & Professional Excellence Award by United States – India Educational Foundation



Dr. Upakarasamy Lourderaj
Received the CRSI (Chemical Research Society of India) - Bronze Medal of 2022

STUDENT ACHIEVEMENTS



Dr. Milan Pramanik from the School of Chemical Sciences received the 'Outstanding Doctoral Student' award from HBNI, Mumbai. His guide was Dr. Prasenjit Mal

OTHER EVENTS

Commemoration of Martyrs' Day

On January 30, NISER stood up and observed a two-minute silence to mark the death anniversary of the father of the nation, Mohandas Karamchand Gandhi and honour the memory of those who sacrificed their lives during the struggle for India's freedom.

Swachhata Pakhwada

In order to maintain and ensure complete cleanliness, apart from the routine cleaning, the Swachhata Committee and Students of NISER have taken up the initiative of conducting special cleanliness drives, sensitization programs at regular intervals in the institute. Student volunteers have significantly contributed to this cause by conducting frequent cleanliness drives in the hostel premises. This year, it was observed from February 16-28, 2022, in which several activities had been arranged for the students to participate in.



Fire Service Week

NISER observed Fire Service Day this year on April 14 and in the consecutive week, that is, from April 14-20, many events such as a marathon, fire safety training, emergency evacuation drills and seminars were organized to spread awareness and commemorate the sacrifices of our brave firefighters. This year the theme of Fire Service Week was "Learn Fire Safety, Increase Productivity".



संयुक्त राजभाषा वैज्ञानिक संगोष्ठी

Seven central institutes of Odisha, that is, NISER, Institute of Life Sciences, Institute of Minerals and Materials Technology, Central Institute of Freshwater Aquaculture, Central Institute for Women in Agriculture, Institute of Physics, and All India Institute of Medical Sciences, Bhubaneshwar, collaborated to conduct the संयुक्त राजभाषा वैज्ञानिक संगोष्ठी (Joint Official Language Scientific Seminar) at NISER on March 15, 2022. The theme of this year's seminar was "COVID Pandemic: Challenges, Treatment & Impact on Human Life".



Observance of International Thalassaemia Day

Odisha Bigyan Academy, in collaboration with NISER, observed the International Thalassaemia Day on the 8th of May to spread awareness about the disorder and apprise people of the different ways it could be prevented through carrier screening, genetic counselling, and prenatal diagnosis. Prof. Dipika Mohanty, Senior Consultant from Apollo, Bhubaneswar, who is an expert in Haemoglobinopathies, delivered a talk to help us gain a better understanding of this genetic disorder.



Observance of Anti-Terrorism Day

On the occasion of Anti-Terrorism Day, the NISER community came together and held a pledge-taking ceremony to commemorate the event and wean away the youth from terrorism and the cult of violence.



Republic Day Celebration

NISER celebrated Republic Day, 2022 with a limited community gathering. Following the flag hoisting ceremony and address by the Director, the Institute presented outstanding performers' awards to our administrative and technical staff who have shown exemplary dedication to the institute community over the years and especially during the pandemic. The Institute conferred awards to the following six staff members: Dr. Haraprasanna Lenka (SO-D), Shri Hiralal Das (AO-I), Ms. N. Bharati Reddy (Nurse-A), Smt. Sibani Bhuyan (Nurse-A), Shri Rabindra Kumar Maharana (Tech.-F Lib.), and Smt. Lopamudra Sahoo (UDC).



Yoga Mahotsava

International Day of Yoga was celebrated by the Institute on June 21, 2022. NISER conducted various yoga and pranayama sessions, in which all the faculty, staff and students of the Institute participated with utmost enthusiasm. Prior to the occasion, NISER observed Yoga Mahotsava-2022 on the campus which started on June 13 and ended on the International Day of Yoga. During the Yoga Mahotsava, yoga experts from different schools of thought were invited to speak about the key principles of the various philosophies of Yoga.



STUDENT ACTIVITIES

Film Club

Film Club conducted a Five Shot Short Film Competition. The competition was designed to promote creative filmmaking in students. Putting a simple limitation such as conveying the essence of the entire film in just five shots made sure that the participants would come up with compact storytelling and creative filmmaking.

Arena eSports Club

Arena eSports Club conducted Intra-NISER BGMI tournament in which many teams participated and their performance was live streamed via Arena Discord server. A gaming event called 'Joto Kando Valorant E' had been conducted by IISER Berhampur, where two teams of NISER participated.

Oorna (Nature Club) & Sapsara (Photography Club)

Organised a collaborative event "Insect Race", in which the participants were supposed to photograph and identify as many insects as they can (Class: Insecta) inside the NISER campus within 3 hours.



Astronomy Club

Astronomy Club witnessed active participation in its events, EXTEMPORE and MEMENOMIA 2.0. EXTEMPORE, an impromptu-speech competition on topics related to astronomy, proved to be a fun learning experience for curious participants and spectators. MEMENOMIA 2.0, the second edition of the online meme-making competition was also conducted on topics related to astronomy and science. In collaboration with the Arts Club, NAC also organized 'L.O.O.P.', an art-cum-writing competition, which was based on the theme 'Life on Other Planets' to ignite the curiosity and creativity of participants.

Arts Club

In the event, UNTRAMMELLED 2.0, participants were allowed to do an artwork of their choice using any medium that they were comfortable with. The event transformed many blank papers into colourful thought-provoking artworks.



Quizone

Quizone, the Quiz Club of NISER, conducted the third edition of Te Quizero. Topics ranged from everything under the sun to Entertainment, Sports, Science, History, and Literature. Around thirty teams participated with each team consisting of a maximum of two people from all batches. Six teams were selected for the finals from the first round, which consisted of a written test. The finals consisted of multiple rounds, each round having its own unique twist, which played to the teams' advantages or disadvantages. The questions themselves were entangled with clues and had to be worked out with much thought.



Literary Club

Literary Club (LitC) conducted a story-writing workshop called "Aatman By Suditi" that was steered by Ms. Suditi, a famed writer and entrepreneur. In addition to the workshop, LitC organized a story-writing competition called "Fabricate". It was a dual-prompt story writing competition where participants were given prompts to start and end their write-ups while building their premise around the same. Ingenious attempts at creating a coherent story line based on the choice of prompts were rewarded.

Maths Club

Organised an Integration Bee event during Umang 2022. This was a battle of fast thinking and accuracy where participants had to fight each other in the Integration battles. Each round was held between two players, who were given the same (indefinite) integral to compute in a limited amount of time.



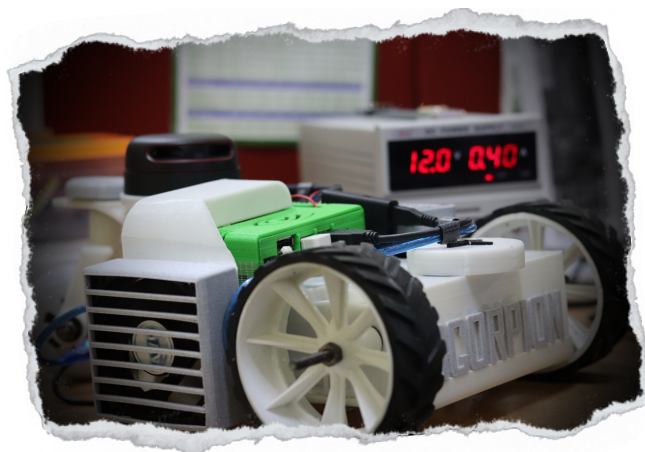
Yoga Club

On the occasion of Umang, the yoga club organized a Yoga and Fitness Event which was instructed by Satyabrata Jena, an experienced yoga practitioner and trainer. The event was conducted at the meditation center of NISER, where participants got the opportunity to engage themselves in various sorts of exercises and asanas. The event ended with a guided meditation session followed by a small felicitation program.



RoboTech Club

The RoboTech Club and the School of Computer Sciences hosted "Hack-Duino 2.0", an inter-college event to mark the occasion of Arduino Day. They organized a unique hackathon-style competition to encourage and enable budding and enthusiastic inventors to explore the potential of robotic applications, big and small, to address a variety of pressing social issues.



Drama & Music Club

Drama & Music Club arranged events like "CYMATICS: A musical open-mic", where students of NISER showcased their vocal and instrumental prowess on a live platform. "CHARADES: A Solo or Group Drama" was another such event, where participants expressed their dramatic side. Teams presented an excerpt from a movie of their choice in a genre different from the original while keeping the storyline and the core ideology intact.



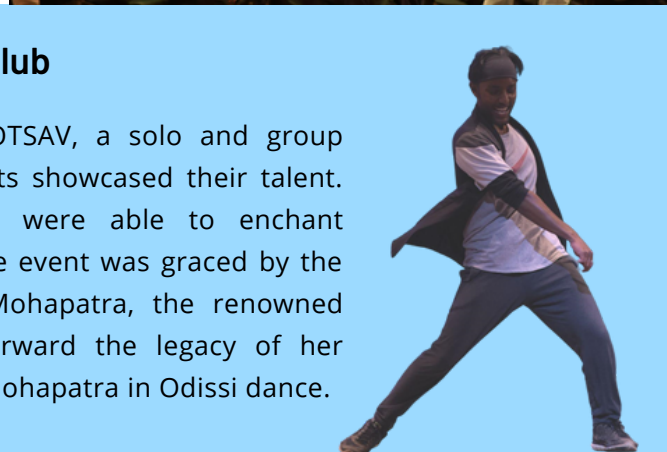
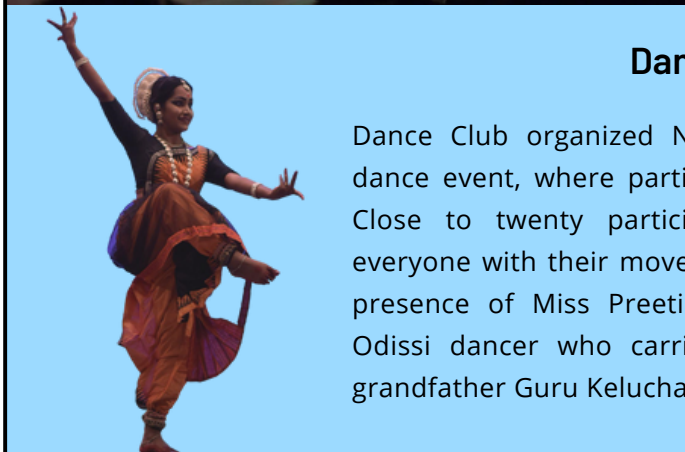
Vaktavya

As part of the inter-college fest, Vaktavya conducted a debating event, "Swap It", albeit with a twist. Participating students debated in pairs in the two-phase event on a popular topic. In the first phase, participants were randomly chosen to speak either for or against the motion of the house and in the second phase, they were required to swap sides and speak from the opposite side with respect to their initial position in the first phase.



Dance Club

Dance Club organized NRITYOTSAV, a solo and group dance event, where participants showcased their talent. Close to twenty participants were able to enchant everyone with their moves. The event was graced by the presence of Miss Preetisha Mohapatra, the renowned Odissi dancer who carries forward the legacy of her grandfather Guru Kelucharan Mohapatra in Odissi dance.



The Rotary Club, Bhubaneswar Metro on 25th May 2022, donated a portable telescope to NISER for conducting various Astronomy related outreach activities.



NEW FACULTY



Dr. Surya Snata Rout
Assistant Professor at
School of Earth and
Planetary Sciences,
joined on April 26, 2022.



Dr. Sumana Hatui
Assistant Professor at
School of Mathematical
Sciences, joined on June
30, 2022.



Dr. Tapan Mishra
Reader-F at School of
Physical Sciences, joined
on May 18, 2022.



Dr. Shamik Banerjee
Associate Professor at
School of Physical
Sciences, joined on June
30, 2022.



Dr. Priyadarshi Chowdhury
Assistant Professor at
School of Earth and
Planetary Sciences, joined
on June 6, 2022.



Dr. Swagata Ghatak
Assistant Professor at
School of Biological
Sciences, joined on June
20, 2022.



Dr. Himabindu Vasuki Kilambi
Assistant Professor at
School of Biological
Sciences, joined on June
29, 2022.



Dr. Luke Robert Chamandy
Reader-F at School of
Physical Sciences, joined
on June 29, 2022.



Dr. Tushar Kanta Naik
Assistant Professor at
School of Mathematical
Science, joined on June
29, 2022.



Image by Gayathri B Menon

NEW STAFF



Dr. Raveendrababu Karnam
Scientific Officer-D (Physics)
at CMRP joined on
December 31, 2021.



Shri Debasis Barik
Scientific Assistant-B
(Mechanical) at CMRP
joined on April 18, 2022.



Shri Deepak Kumar
Scientific Assistant-B
(Electronics and
Instrumentation) at CMRP
joined on April 26, 2022.



Shri Anindya Kumar Baral
Scientific Officer - C
(Medical Physics) at CMRP
joined on June 14, 2022.



Shri Kirti Prakash Sharma
Scientific Officer - C
(Electronics) at CMRP
joined on June 28, 2022.



Shri Satya Narayan Mohanty
Deputy Controller of
Accounts at Finance and
Accounts, joined on
June 30, 2022.



NISER Newsletter

Vibes

राष्ट्रीय विज्ञान शिक्षा एवं अनुसंधान संस्थान
National Institute of Science Education and Research

परमाणु ऊर्जा विभाग, भारत सरकार का एक स्वयंशासित संस्थान
AN AUTONOMOUS INSTITUTE UNDER DAE, GOVERNMENT OF INDIA

V

Brought out by Information Cell

Design Layout Credit

Mr. Bidyut S.S. Mohanty

Content Curation Credit

Ms. Monika Mishra

+91 674 2494515

vibes@niser.ac.in

www.niser.ac.in/vibes

Cover Photo Credit: Shubhang Sharma



https://twitter.com/niser_official/



<https://www.facebook.com/niser.official/>



https://www.youtube.com/@niser_official/



<https://in.linkedin.com/school/niser-official/>



Image by Pulkit Ojha